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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/046,468	10/19/2001	Kelly L. Dempski	10022/144	2895
28164	7590	02/11/2004	EXAMINER	
BRINKS HOFER GILSON & LIONE			ANYASO, UCHENDU O	
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CHICAGO, IL 60610			PAPER NUMBER	
			2675	
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/046,468

Applicant(s)

DEMPSKI, KELLY L.

Examiner

Uchendu O Anyaso

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. **Claims 1-20** are pending in this action.

Claim Rejections - 35 USC ' 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claims 14-20** are rejected under 35 U.S.C. 102(b) as being anticipated by *Beller* (U.S. Patent 6,046,712).

Regarding **independent claim 14**, and for **claims 19 and 20**, Beller teaches a method of viewing data and directing the view of a wearable camera within the field of view of the operator by teaching a head mounted display system that allows an operator of a remote system to see what the user of the head mounted system is viewing wherein the head mounted communication system includes a support to be worn on a user's head and a camera system that is mounted on the support to pick up an image within at least a portion of the user's field of view (*see* column 1, lines 12-17, 48-57, 62-66). It is inherent that this head mounted display comprises circuitry and logic that enables it accomplish tasks such as picking up an image within at least a portion of the user's field of view.

Furthermore, Beller teaches how to detect one or more visual markers by teaching how the user can realign his view to the view of the picked up image marked by the assistant by merely moving his head until the user's displayed image coincides with the real world image

seen through the optics of the system (*see* column 2, lines 39-59; *see also* column 3, lines 64 through column 4, lines 5).

Also, Beller teaches how the operator of the remote system can see the changing view of the user of the head mounted system in real time such that the operator can add marks or other inputs to the real time image depicted on his display so as to identify, for example, a particular object within the picked up image of the real world wherein these marks can then be transmitted to the head mounted system in real time (column 2, lines 16-38).

Furthermore, Beller teaches how to select data from memory storage by teaching how the head mounted communication system 10 operates to transmit video and/or audio data to a remote assistant's terminal 13 in accordance with the flow chart depicted in FIG. 4 wherein at block 140, the microprocessor 90 determines whether there is a frame of compressed video data in the buffer memory 86 to be transmitted, and if so, the microprocessor 90 proceeds to block 142 to retrieve the compressed data for a video frame (column 9, lines 21-28, figure 4 at 86, 140, 142).

Also, Beller teaches how to display data on the wearable display worn by the operator (column 4, lines 19-22, figure 3 at 14).

Regarding **claim 15**, in further discussion of claim 14, Beller teaches how the invention allows the user of the head mounted system to view video inputs received from the remote system so that they appear to be superimposed upon the real world (*see* Abstract; column 1, lines 12-17).

Furthermore, Beller teaches how the user would simultaneously view information on the display and objects within the field of view of the operator (column 4, lines 28-38).

Regarding **claim 16**, in further discussion of claims 10 and 15, Beller teaches how the invention allows the user of the head mounted system to view video inputs received from the remote system so that they appear to be superimposed upon the real world (*see* Abstract; column 1, lines 12-17).

Regarding **claims 17 and 18**, in further discussion of claim 14, Beller teaches how to select data from memory storage by teaching how the head mounted communication system 10 operates to transmit video and/or audio data to a remote assistant's terminal 13 in accordance with the flow chart depicted in FIG. 4 wherein at block 140, the microprocessor 90 determines whether there is a frame of compressed video data in the buffer memory 86 to be transmitted, and if so, the microprocessor 90 proceeds to block 142 to retrieve the compressed data for a video frame (column 9, lines 21-28, figure 4 at 86, 140, 142).

Claim Rejections - 35 USC ' 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 1-13** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Beller* (U.S. Patent 6,046,712) in view of *Ohshima* (U.S. 6,522,312).

Regarding **independent claim 1**, Beller teaches a method of viewing data and directing the view of a wearable camera within the field of view of the operator by teaching a head mounted display system that allows an operator of a remote system to see what the user of the head mounted system is viewing wherein the head mounted communication system includes a support to be worn on a user's head and a camera system that is mounted on the support to pick up an image within at least a portion of the user's field of view (*see* column 1, lines 12-17, 48-57, 62-66).

Furthermore, Beller teaches how to select data from memory storage by teaching how the head mounted communication system 10 operates to transmit video and/or audio data to a remote assistant's terminal 13 in accordance with the flow chart depicted in FIG. 4 wherein at block 140, the microprocessor 90 determines whether there is a frame of compressed video data in the buffer memory 86 to be transmitted, and if so, the microprocessor 90 proceeds to block 142 to retrieve the compressed data for a video frame (column 9, lines 21-28, figure 4 at 86, 140, 142).

Also, Beller teaches how to display data on the wearable display worn by the operator (column 4, lines 19-22, figure 3 at 14).

Furthermore, Beller teaches how to detect one or more visual markers by teaching how the user can realign his view to the view of the picked up image marked by the assistant by merely moving his head until the user's displayed image coincides with the real world image seen through the optics of the system (*see* column 2, lines 39-59; *see also* column 3, lines 64 through column 4, lines 5).

However, Beller does not teach how to automatically detect one or more visual markers within the image through the use of pattern recognition. On the other hand, Ohshima teaches this concept by teaching markers with circular and square patterns wherein the markers sensed by the CCD camera 240 attached to each player detects the position in the image (column 13, lines 41-53, figure 5).

Thus, it would have been obvious to a person of ordinary skill in the art to combine Beller and Ohshima because while Beller teaches a method of viewing data and directing the view of a wearable camera within the field of view of the operator, Ohshima teaches how to automatically detect one or more visual markers within the image through the use of pattern recognition by teaching markers with circular and square patterns wherein the markers sensed by the CCD camera 240 attached to each player detects the position in the image (column 13, lines 41-53, figure 5). The motivation for combining these inventions would have been to achieve an improvement of precise detection of the head position and/or posture of an operator to which mixed reality is presented (column 1, lines 9-12).

Regarding **claims 2 and 3**, in further discussion of claim 1, Beller teaches how the head mounted communication system includes a support to be worn on a user's head and a camera system that is mounted on the support to pick up an image within at least a portion of the user's field of view (see column 1, lines 62-66).

Regarding **claim 4**, in further discussion of claim 1, Beller teaches how the invention allows the user of the head mounted system to view video inputs received from the remote

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system so that they appear to be superimposed upon the real world (*see* Abstract; column 1, lines 12-17).

Regarding **claim 5**, in further discussion of claim 1, Beller teaches an input device that is actuable by the user to provide a user input command for selecting, for display on the head mounted display screen, data received from the remote system and the non-remote data sources (column 2, lines 60-67).

Regarding **claim 6**, in further discussion of claim 1, Beller teaches how the operator of the remote system can see the changing view of the user of the head mounted system in real time such that the operator can add marks or other inputs to the real time image depicted on his display so as to identify, for example, a particular object within the picked up image of the real world wherein these marks can then be transmitted to the head mounted system in real time (column 2, lines 16-38).

Regarding **claim 7**, in further discussion of claim 5, Beller teaches how his invention relates to a head mounted display system and more particularly to a head mounted communication system for providing interactive visual and/or audio communications between a user of the head mounted system and an operator of a remote system (column 1, lines 8-12).

Regarding **claim 8**, in further discussion of claim 5, Beller teaches the display 19 includes a touch responsive panel so that a stylus 23 can be used therewith to allow the assistant

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to mark the display by drawing circles, arrows, etc., that are useable to identify objects within the displayed image such that the touch panel and associated processor within the terminal 13 are responsive to contact by the stylus 23 so as to control the display 19 to cause a visual representation of the marks to be generated on the display as if they were drawn by the stylus 23 (column 3, lines 64 through column 4, lines 5).

Regarding **claim 9**, in further discussion of claim 5, Beller teaches a method of viewing data and directing the view of a wearable camera within the field of view of the operator by teaching a head mounted display system that allows an operator of a remote system to see what the user of the head mounted system is viewing wherein the head mounted communication system includes a support to be worn on a user's head and a camera system that is mounted on the support to pick up an image within at least a portion of the user's field of view (*see* column 1, lines 12-17, 48-57, 62-66).

Regarding **independent claim 10**, Beller teaches a method of viewing data and directing the view of a wearable camera within the field of view of the operator by teaching a head mounted display system that allows an operator of a remote system to see what the user of the head mounted system is viewing wherein the head mounted communication system includes a support to be worn on a user's head and a camera system that is mounted on the support to pick up an image within at least a portion of the user's field of view (*see* column 1, lines 12-17, 48-57, 62-66).

Also, Beller teaches how the operator of the remote system can see the changing view of the user of the head mounted system in real time such that the operator can add marks or other inputs to the real time image depicted on his display so as to identify, for example, a particular object within the picked up image of the real world wherein these marks can then be transmitted to the head mounted system in real time (column 2, lines 16-38).

Furthermore, Beller teaches how to select data from memory storage by teaching how the head mounted communication system 10 operates to transmit video and/or audio data to a remote assistant's terminal 13 in accordance with the flow chart depicted in FIG. 4 wherein at block 140, the microprocessor 90 determines whether there is a frame of compressed video data in the buffer memory 86 to be transmitted, and if so, the microprocessor 90 proceeds to block 142 to retrieve the compressed data for a video frame (column 9, lines 21-28, figure 4 at 86, 140, 142).

Also, Beller teaches to determine the location of the operator by means of data representing the marks input by the operator, which can be transmitted in association with a location determined with respect to the picked up image (column 2, lines 16-38).

Furthermore, Beller teaches how to detect one or more visual markers by teaching how the user can realign his view to the view of the picked up image marked by the assistant by merely moving his head until the user's displayed image coincides with the real world image seen through the optics of the system (*see* column 2, lines 39-59; *see also* column 3, lines 64 through column 4, lines 5).

However, Beller does not teach how to automatically detect one or more visual markers within the image through the use of pattern recognition. On the other hand, Ohshima teaches

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this concept by teaching markers with circular and square patterns wherein the markers sensed by the CCD camera 240 attached to each player detects the position in the image (column 13, lines 41-53, figure 5).

Thus, it would have been obvious to a person of ordinary skill in the art to combine Beller and Ohshima because while Beller teaches a method of viewing data and directing the view of a wearable camera within the field of view of the operator, Ohshima teaches how to automatically detect one or more visual markers within the image through the use of pattern recognition by teaching markers with circular and square patterns wherein the markers sensed by the CCD camera 240 attached to each player detects the position in the image (column 13, lines 41-53, figure 5). The motivation for combining these inventions would have been to achieve an improvement of precise detection of the head position and/or posture of an operator to which mixed reality is presented (column 1, lines 9-12).

Regarding **claims 11 and 12**, in further discussion of claim 10, Beller teaches how to monitor the change of location of the markers within the field of view of the head mounted display (column 2, lines 39-59).

Regarding **claim 13**, in further discussion of claims 10, Beller teaches how the invention allows the user of the head mounted system to view video inputs received from the remote system so that they appear to be superimposed upon the real world (*see* Abstract; column 1, lines 12-17).

Response to Arguments

6. Applicant's amendments and arguments filed November 19, 2003 have been fully considered but they are not persuasive.

With respect to independent claims 1 and 10, applicant amended these claims and argues that Beller does not describe, "automatically detecting one or more visual markers within the image through the use of pattern recognition." As a result of applicant's amendments, Ohshima is utilized because this reference teaches this concept by teaching markers with circular and square patterns wherein the markers sensed by the CCD camera 240 attached to each player detects the position in the image (column 13, lines 41-53, figure 5).

Thus, it would have been obvious to a person of ordinary skill in the art to combine Beller and Ohshima because while Beller teaches a method of viewing data and directing the view of a wearable camera within the field of view of the operator, Ohshima teaches how to automatically detect one or more visual markers within the image through the use of pattern recognition by teaching markers with circular and square patterns wherein the markers sensed by the CCD camera 240 attached to each player detects the position in the image (column 13, lines 41-53, figure 5). The motivation for combining these inventions would have been to achieve an improvement of precise detection of the head position and/or posture of an operator to which mixed reality is presented (column 1, lines 9-12).

Regarding claim 14, applicant contends that Beller does not describe a computer having logic for detecting visual markers. However, Beller teaches this concept by teaching a head mounted display system that allows an operator of a remote system to see what the user of the head mounted system is viewing wherein the head mounted communication system includes a

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support to be worn on a user's head and a camera system that is mounted on the support to pick up an image within at least a portion of the user's field of view (*see* column 1, lines 12-17, 48-57, 62-66). It is inherent that this head mounted display comprises circuitry and logic that enables it accomplish tasks such as picking up an image within at least a portion of the user's field of view.

As such, applicant's arguments are not persuasive.

Conclusion

7. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Uchendu O. Anyaso whose telephone number is (703) 306-5934.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Saras, can be reached at (703) 305-9720.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

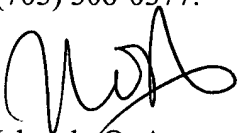
Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.



Uchendu O. Anyaso

02/09/2004



STEVEN SARAS
SUPERVISORY PATENT EXAMINER
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